

(ASIC), or comparable device. The processors may be implemented as a single controller, or a plurality of controllers or processors.

**[0058]** Memories **515**, **525**, and **535** may independently be any suitable storage device, such as a non-transitory computer-readable medium. A hard disk drive (HDD), random access memory (RAM), flash memory, or other suitable memory may be used. The memories may be combined on a single integrated circuit as the processor, or may be separate from the one or more processors. Furthermore, the computer program instructions stored in the memory and which may be processed by the processors may be any suitable form of computer program code, for example, a compiled or interpreted computer program written in any suitable programming language.

**[0059]** The memory and the computer program instructions may be configured, with the processor for the particular device, to cause a hardware apparatus such as UE **510**, eNB **520**, and D2D device **530**, to perform any of the processes described above (see, for example, FIGS. **1-4**). Therefore, in certain embodiments, a non-transitory computer-readable medium may be encoded with computer instructions that, when executed in hardware, perform a process such as one of the processes described herein. Alternatively, certain embodiments may be performed entirely in hardware.

**[0060]** Furthermore, although FIG. **5** illustrates a system including a UE, eNB, and D2D device, embodiments of the invention may be applicable to other configurations, and configurations involving additional elements.

**[0061]** One having ordinary skill in the art will readily understand that the invention as discussed above may be practiced with steps in a different order, and/or with hardware elements in configurations which are different than those which are disclosed. Therefore, although the invention has been described based upon these preferred embodiments, it would be apparent to those of skill in the art that certain modifications, variations, and alternative constructions would be apparent, while remaining within the spirit and scope of the invention. In order to determine the metes and bounds of the invention, therefore, reference should be made to the appended claims.

**[0062]** Glossary

**[0063]** ASIC Application Specific Integrated Circuit

**[0064]** CN Core Network

**[0065]** CPU Central Processing Unit

**[0066]** D2D Device to Device Communications

**[0067]** DMR D2D Measurement Report

**[0068]** eNB Evolved Node B

**[0069]** GPS Global Positioning System

**[0070]** HDD Hard Disk Drive

**[0071]** MEMS Micro Electrical Mechanical System

**[0072]** MIMO Multiple Input Multiple Output

**[0073]** MME Mobility Management Entity

**[0074]** ProSe Proximity Services

**[0075]** RAM Random Access Memory

**[0076]** RAN Radio Access Network

**[0077]** ROM Read Only Memory

**[0078]** RSRP Reference Signal Received Power

**[0079]** UE User Equipment

We claim:

1. A method, comprising:

identifying, at a device, at least one strong device to device communication; and

reporting, or initiating the reporting, the at least one strong device to device communication to a controlling node, wherein the controlling node is configured to control the device.

2. The method of claim **1**, wherein the at least one strong device to device communication comprises at least one device to device pair, at least one device to device unicast, or at least one device to device multicast.

3. The method of claim **1**, further comprising:

reporting, to the controlling node, an identification of at least one controlling node corresponding to the at least one strong device to device communication.

4. The method of claim **3**, wherein the identification comprises at least one of identification information of a device to device pair or a controlling cell identifier.

5. A method, comprising:

identifying a strong device to device communication based on a report received from a device; and

determining whether to hand over at least one device based on whether the at least one device is part of strong device to device communication.

6. The method of claim **5**, wherein the determining is configured to keep strong device to device communicators under control of a same controlling node.

7. The method of claim **5**, further comprising:

identifying a controlling node associated with the strong device to device communication.

8. The method of claim **7**, wherein the identifying the controlling node comprises inquiring of a network based on information included in the report.

9. The method of claim **5**, further comprising:

triggering handover of the at least one device, based on the determining, when handing over the device places more strong device to device communications under a single controlling node.

10. The method of claim **9**, further comprising:

confirming with a target controlling node that handing over the device places more strong device to device communications under the single controlling node, prior to commanding the at least one device to hand over.

11. An apparatus, comprising:

at least one processor; and

at least one memory including computer program code, wherein the at least one memory and the computer program code are configured to, with the at least one processor, cause the apparatus at least to

identify, at a device, at least one strong device to device communication; and

report, or initiate the report of, the at least one strong device to device communication to a controlling node, wherein the controlling node is configured to control the device.

12. The apparatus of claim **11**, wherein the at least one strong device to device communication comprises at least one device to device pair, at least one device to device unicast, or at least one device to device multicast.

13. The apparatus of claim **11**, wherein the at least one memory and the computer program code are configured to, with the at least one processor, cause the apparatus at least to report, to the controlling node, an identification of at least one controlling node corresponding to the at least one strong device to device communication.

14. The apparatus of claim **13**, wherein the identification comprises at least one of identification information of a device to device pair or a controlling cell identifier.